

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

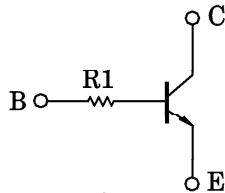
# RN1241, RN1242, RN1243, RN1244

Unit in mm

FOR MUTING AND SWITCHING APPLICATIONS

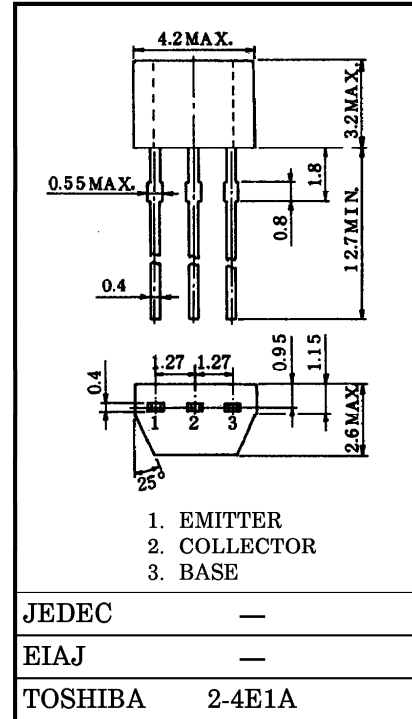
- High Emitter-Base Voltage :  $V_{EBO} = 25V$  (Min.)
- High Reverse  $h_{FE}$   
: Reverse  $h_{FE} = 150$  (Typ.) ( $V_{CE} = -2V, I_C = -4mA$ )
- Low On Resistance :  $R_{ON} = 1\Omega$  (Typ.) ( $I_B = 5mA$ )
- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process

EQUIVALENT CIRCUIT



MAXIMUM RATINGS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	50	V
Collector-Emitter Voltage	$V_{CEO}$	20	V
Emitter-Base Voltage	$V_{EBO}$	25	V
Collector Current	$I_C$	300	mA
Collector Power Dissipation	$P_C$	300	mW
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$



JEDEC	—
EIAJ	—
TOSHIBA	2-4E1A

Weight : 0.13g

ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 50V, I_E = 0$	—	—	0.1	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 25V, I_C = 0$	—	—	0.1	$\mu A$
DC Current Gain	$h_{FE}(\text{Note})$	$V_{CE} = 2V, I_C = 4mA$	200	—	1200	
Collector-Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C = 30mA, I_B = 3mA$	—	—	0.1	V
Transition Frequency	$f_T$	$V_{CE} = 6V, I_C = 4mA$	—	30	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	4.8	—	pF
Input Resistor	RN1241	R1	3.9	5.6	7.3	k $\Omega$
	RN1242		7	10	13	
	RN1243		15.4	22	28.6	
	RN1244		1.54	2.2	2.86	

Note :  $h_{FE}$  Classification      A : 200~700      B : 350~1200

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